Data Center vs Co-Location

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Recent Office Location Consolidation

Build DC vs. Co-Location Consideration

5/12 New Primary Data Center at HQ

6/12 New Backup Data Center On-Prem
Redundancy
• Evaluated Costs of DC Build Out
• Compare Annual Co-Lo expenses over 10 year lease of commercial space to the 5 year finance of a generator and dual AC system
• Still need an on-Premise DC for network switching and WAN infrastructure
• Costs to move all P2P and MPLS Lines to Co-Lo
  Is it significantly farther in air-miles?
• Additional Downtime to Move VPN/Servers
• Co-Lo Facilities do fail (Chicago Equinix 2 days)
• Cloud providers do fail (and more often if you are not paying for premium full/cloud mesh)
• You still need redundant site for replication – the two sites should be at least 100 Miles apart.
• How quickly can you get there to fix a problem
Benefits of In-House

• Full Control Over Design & Construction
  “Get Exactly What you Need/Want”
• No Ongoing Per-Port / Per Outlet Fees
• Instant Administration (no driving)
• No Physical Security Concerns
  from a Shared Cabinet or Cage
• No Extra Data Charges for Costly
  Point-to-Point or MPLS Networks
• Growth & Expansion is Easier
• Maintaining a DC is not Hard
• VDI/App Performance is Better
Best Practices

• Make the DC build out part of the rent and lease negotiations. Be willing to walk.
• Demand a seat at the construction meetings
• Landlords will chip in for some infrastructure costs (generator room, electrical piping, roof condensers for AC, etc).
• Tie in Life-Safety lighting\security system\riser closet power for WAN into generator
• Natural gas over Diesel
• UPS doesn’t need to be as large w/Generator
• Buy the web administration card for key systems
• You are only as good as your weakest point. The weakest point will give you the most trouble.
About Burr & Forman

• Full Service Law Firm
• 275 attorneys
  550 total personnel
• 8 Offices in 5 States
• **Needs**
  - Looking for secondary datacenter for DR/BC – Required by clients
  - Already have in-house datacenter in main office
  - Needs to be geographically diverse from primary datacenter
• Challenges
  • Southeastern office footprint
  • Many coastal areas – not suitable
  • Several very small offices – not suitable
  • Inland offices too close to Birmingham
  • To colo or not to colo. If colo, where?
  • Bham not a great city for flights
  • What technology to use?
Foley & Lardner LLP

- 21 office locations / 950 attorneys
- 2 national data centers / 1 tertiary co-location data protection site
- Primary data center is a co-location facility with LexisNexis in Springfield, OH
- Secondary data center is located in Foley’s Milwaukee office
- Data protection site is co-location facility with LexisNexis in Miamisburg, OH
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The problem/opportunity:

- The need for 24 X 7 X 365 availability
- Centralize, consolidate, cluster and replicate
- Hurricane Katrina, California wildfires, 911 and numerous scheduled and unscheduled office building power outages were all key drivers behind our decision to centralize all core systems and services to an industrial strength co-location data center facility
- We could no longer afford to house our primary production systems and services in office buildings built primarily to house people not data centers
Foley’s hybrid solution:

• Delivering all core systems and services from an industrial strength co-located data center with LexisNexis in Springfield, OH and replicating to a secondary data center located within Foley’s Milwaukee, WI office

• Backing up all data center and satellite office data to a tertiary co-located site with LexisNexis located in Miamisburg, OH, which is 30 miles away from the primary data center

• This data center co-location project took two years to complete
The technology:
- Clustered servers
- SAN storage
- Geo-clustered telephone system
- Centralized and redundant Internet services
- CA/XOsoft WANSync for replication
- Redundant WAN circuits & WAN acceleration
- Server virtualization (added VDI in 2009)
- Deployed a Virtual Tape Library for backups
The benefits:

- Zero downtime from loss of power or cooling
- System and service high availability
- Industrial strength, highly secure, facility (SAS70 / SSAE 16 certified)
- Ability to expand the data center footprint far beyond what we had space for internally
- Tertiary data protection co-lo site eliminated all off-site Iron Mountain back up storage services at the local office level
The challenges:

- Embracing the concept of a co-located primary data center
- Data center remote hands support
- Equipment installation and removal
- Data center documentation
- Ran into power and space constraints four years into our co-location arrangement
Lessons learned:

• Establish a clearly defined and documented concept of operations agreement
• Establish how you will keep your data center documentation up to date and in synch
• Understand what your power and space requirements and limitations are up front
• Meet with your co-location support team regularly
• Make site visits on a fairly regular basis
Questions